

**Yagiite**

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**Crystal Data:** Hexagonal. *Point Group:*  $6/m\ 2/m\ 2/m$ . Interstitially in a 0.8 mm silicate inclusion surrounded by nickel-iron.

**Physical Properties:** Hardness = n.d.  $D(\text{meas.}) = \text{n.d.}$   $D(\text{calc.}) = 2.70$

**Optical Properties:** Semitransparent. *Color:* Colorless; colorless to very light blue in thin section.

*Optical Class:* Uniaxial (+). *Pleochroism:* Faint;  $O = \text{very light blue}$ ;  $E = \text{colorless}$ .  
 $\omega = 1.536(2)$   $\epsilon = 1.544(2)$

**Cell Data:** *Space Group:*  $P6/mcc$ .  $a = 10.09(1)$   $c = 14.29(3)$   $Z = 2$

**X-ray Powder Pattern:** Colomera meteorite.

3.228 (100), 5.059 (65), 3.726 (50), 2.765 (50), 2.909 (40), 7.12 (30), 2.003 (30)

**Chemistry:**

	(1)
SiO <sub>2</sub>	61.7
TiO <sub>2</sub>	0.8
Al <sub>2</sub> O <sub>3</sub>	19.1
Cr <sub>2</sub> O <sub>3</sub>	0.1
FeO	2.4
MnO	0.2
MgO	10.5
CaO	0.1
Na <sub>2</sub> O	3.7
K <sub>2</sub> O	1.4
Total	100.0

(1) Colomera meteorite; by electron microprobe, corresponds to  $(\text{Na}_{1.20}\text{K}_{0.30})_{\Sigma=1.50}\text{Mg}_{2.00}(\text{Al}_{1.96}\text{Mg}_{0.60}\text{Fe}_{0.34}\text{Ti}_{0.10})_{\Sigma=3.00}(\text{Si}_{10.22}\text{Al}_{1.78})_{\Sigma=12.00}\text{O}_{30}$ .

**Mineral Group:** Milarite group.

**Occurrence:** In silicate inclusions of an iron meteorite, crystallized in a magnesium-rich environment.

**Association:** Diopside, whitlockite, tridymite, plagioclase, nickel-iron.

**Distribution:** In the Colomera iron meteorite.

**Name:** For Dr. Kenzo Yagi, Professor of Geology, Hokkaido University, Sapporo, Japan.

**Type Material:** n.d.

**References:** (1) Bunch, T.E. and L.H. Fuchs (1969) Yagiite, a new sodium-magnesium analogue of osumilite. *Amer. Mineral.*, 54, 14–18.